CLAIMS

1. Computer software for simulating a tri-tone attenuated phase-shifting mask including a plurality of structures, a subset of the structures including a transparent region, an opaque region, and an attenuated region, wherein the opaque region and the attenuated region form a rim, the software comprising:

means for analyzing optical proximity correction for the subset of the structures; and

means for providing a substantially similar rim width in the subset of the structures.

2. The computer software of Claim 1, wherein the means for providing includes:

means for dividing a first edge of the attenuated region into a plurality of first segments;

means for dividing a second edge of the opaque region into a plurality of second segments, wherein each second segment corresponds to a certain first segment; and

means for determining whether a second segment moves with its corresponding first segment during optical proximity correction.

3. The computer software of Claim 1, wherein the means for providing includes:

means for downsizing the attenuated region and then upsizing the attenuated region to generate the substantially similar rim width.

4. The computer software of Claim 1, wherein the means for providing includes:

means for downsizing the attenuated region to generate the substantially similar rim width.

5. Computer software to convert an integrated circuit layout into an attenuated phase-shifting mask layout for fabricating the integrated circuit, the software comprising:

means for identifying a subset of structures in the integrated circuit layout;

means for converting the subset of structures into the mask layout, wherein each converted structure includes a transparent region, an opaque region, and an attenuated region, wherein the opaque region and the attenuated region form a rim;

means for analyzing optical proximity correction for a plurality of converted structures; and

means for providing a substantially similar rim width for the plurality of converted structures.

6. The computer software of Claim 5, wherein the means for providing includes:

means for dividing a first edge of the attenuated region into a plurality of first segments;

means for dividing a second edge of the opaque region into a plurality of second segments, wherein each second segment corresponds to a certain first segment; and

means for determining whether a second segment moves with its corresponding first segment during optical proximity correction.

7. The computer software of Claim 5, wherein the means for providing includes:

means for downsizing the attenuated region and then upsizing the attenuated region to generate the substantially similar rim width.

8. The computer software of Claim 5, wherein the means for providing includes:

means for downsizing the attenuated region to generate the substantially similar rim width.